

Patent Claims

1. A system for communication between remote objects which are provided with service providers (10), whose  
5 methods can be accessed as web services (5), and client-end local proxies (3) in a computer network (9), in particular the Internet or a LAN, with

10 a) a general service (8) being installed in addition to the existing services (web services 5) at the service provider (10) end and being designed to switch one or more service calls from a client (1) to the available services (5), and to transmit one or more response messages to the client (1),

15 b) an optimization layer (6) being implemented at the client end in addition to the other local proxies (3), and being designed to carry out client-end optimizations and to combine call groups and, furthermore, with a general proxy (7) being installed, which is designed to carry out grouped service calls, and to return response messages to the optimization layer (6).

25 2. The system as claimed in claim 1, characterized in that the optimization layer (6) contains at least one cache, with whose aid service calls can be avoided or delayed.

30 3. The system as claimed in claim 2, characterized in that the client (1) is designed by means of the optimization layer (6) and the general proxy (7) to automatically initiate a communication with a service provider (10), even without any call from a client application (2), in order to update stored information.

35 4. The system as claimed in claim 2, characterized in that the client (1) is designed by means of the

optimization layer (6) and the general proxy (7) to manage, in particular to update and invalidate, the data in the cache, to request piggyback information together with the transmission of call groups, and the 5 reverse transmission of responses from the service provider (10).

5. A method for communication between remote objects which are provided with service providers (10), whose 10 methods can be accessed as web services (5), and client-end local proxies (3) in a computer network (9), in particular the Internet or a LAN, with

- a general service (8) being installed in addition 15 to the existing services (web services 5) at the service provider (10) end, and  
- an optimization layer (6) in each case being implemented at the client end in addition to the other local proxies (3) and containing a cache, 20 and with a general proxy (7) also being installed, and with

a) a plurality of calls to methods by client 25 applications (2) being passed by the respective proxy (3) to the optimization layer (6), where they are combined to form a call group and are passed to a communication layer (4),  
b) the call group being transmitted to the service provider (10), where the individual calls 30 contained in the call group are passed by the general service (8) to the respective corresponding services (5) whose responses are combined and are transmitted back to the client (1) in a grouped manner, and  
35 c) the responses being evaluated in the optimization layer (6) and being passed to the client application (2) via the respective proxy (3).

6. The method as claimed in claim 5, characterized in that the optimization layer (6) is designed to manage, in particular to update and invalidate, the data in the cache, to request piggyback information together with 5 the transmission of call groups, and the reverse transmission of responses from the service provider (10).

7. The method as claimed in claim 5 or 6, 10 characterized in that the optimization layer (6) automatically initiates a communication with a service provider (10) for management, in particular for updating and invalidation, of the data in the cache, even without any call by a client application (2).